

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 11278802
PUBLICATION DATE : 12-10-99

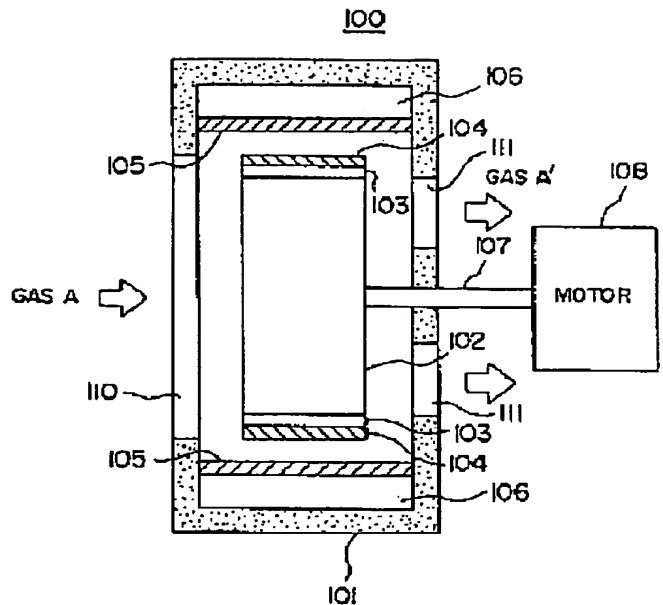
APPLICATION DATE : 31-03-98
APPLICATION NUMBER : 10087114

APPLICANT : JAPAN FINE CERAMICS CENTER;

INVENTOR : HAYASHI YUJI;

INT.CL. : C01B 3/26 H01M 8/04

TITLE : PRODUCTION OF GASEOUS
HYDROGEN AND FUEL CELL



ABSTRACT : PROBLEM TO BE SOLVED: To obtain a gas contg. gaseous hydrogen for a fuel cell at a low temp. while avoiding poisoning by activating an input gaseous mixture contg. gaseous methane by a plasma discharge and bringing it into a chemical reaction using a catalytic metal.

SOLUTION: A gas reactor 100 has a rotor 102 and plural blades 103 housed in a vessel 101, catalyst layers 104 disposed on the front edges of the blades 103, an external electrode 105 and an insulating member 106 disposed around the rotor 102, a gas charge opening 110 and a gas discharge opening 111. The rotor 102 comprises an electroconductive material and is rotated. The external electrode 105 is formed with an electroconductive material such as Pt. When AC power is supplied between the rotor 102 and the electrode 105, a glow discharge is caused between the catalyst layers 104 and the electrode 105 to cause a gas reaction by which a gas A is converted into a gas A'. The gas A is, e.g. a gaseous CH₄-CO₂ mixture and reacts on the surface of the catalyst such as Pt or Rh to give the gas A' consisting of H₂ and CO₂. By this method, hydrogen is produced in a short time after the beginning of operation.

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06337200 **Image available**
PRODUCTION OF GASEOUS HYDROGEN AND FUEL CELL

PUB. NO.: 11-278802 A]
PUBLISHED: October 12, 1999 (19991012)
INVENTOR(s): YANAGIDA HIROAKI
 KUBO YUKIO
 FUKUI TAKEHISA
 TEI SOUSHIN
 HAYASHI YUJI
APPLICANT(s): FUJITSU LTD
 JAPAN FINE CERAMICS CENTER
APPL. NO.: 10-087114 [JP 9887114]
FILED: March 31, 1998 (19980331)
INTL CLASS: C01B-003/26; H01M-008/04

ABSTRACT

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